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A.I.D. Project Impact Evaluation Report No.1

Colombia: Small Farmer Market Access

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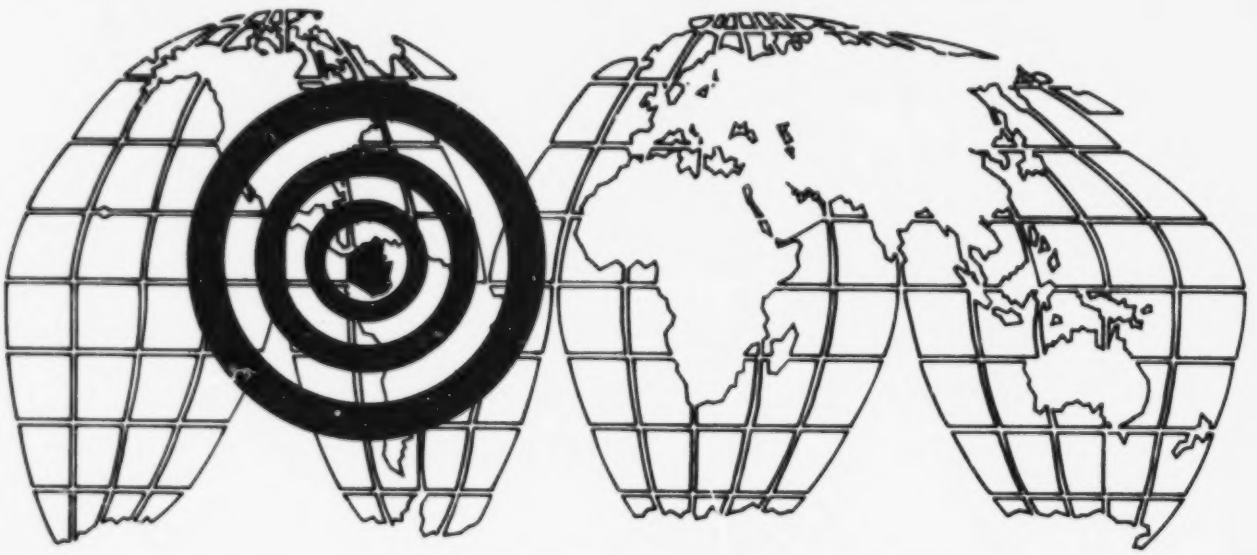

December 1979

Agency for International Development

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COLOMBIA: SMALL FARMER MARKET ACCESS

(AID Loan 514-T-079)
(AID Project 514-0194)

PROJECT IMPACT EVALUATION

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December 1979

The views and interpretations expressed in this report are those of the authors and should not be attributed to the Agency for International Development.

In October 1979, the Administrator of the Agency for International Development requested that, in preparation for an Agency-wide ex-post evaluation system, between twenty and thirty projects be evaluated during the subsequent year, focusing on the impact of these projects in several representative sectors of the Agency's program. These impact evaluations are to be performed by Agency personnel and result in a series of studies which, by virtue of their comparability in scope, will ensure cumulative findings of use to the Agency and the larger development community. This study is the first to be published from this effort. A final evaluation report will summarize and analyze the results of all the studies in each sector, and relate them to program, policy and design requirements.

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COLOMBIA

SMALL FARMER MARKET ACCESS

(Pico y Pala)

PROJECT IMPACT EVALUATION

EXECUTIVE SUMMARY

In November 1979, a four-person team spent three weeks in Colombia evaluating the nearly completed Small Farmer Market Access Project better known as Pico y Pala (Pick and Shovel). This was the first in the series of impact evaluations initiated under the Administrator's directive. The project will result in the construction of 59 all-weather, unpaved mountain roads of 8 kilometers average length. They are being built under the direction of a Colombian government entity, Caminos Vecinales, but with most of the work performed by the small farmers and landless rural laborers who were the intended beneficiaries of the completed roads.

Although long-term questions remain, the overwhelming character of the short-term results leaves little doubt of the project's impact. The keystone of this success was the sharp reduction in transport costs following the switch from animal to motorized transportation. As transport costs fell, economic incentives increased and production rose without changes in policy or such services as agricultural extension. When it was in the farmers' interest to grow more, they grew more; in rural Colombia at least, they did not have to be taught or exhorted to do so.

In fact, the flow of public services expected from other government entities, such services as health and education, has not yet followed the road as anticipated. Any impacts in these areas resulted from increased capacity of those heretofore isolated to seek services in town.

There are three long-term concerns about the project: maintenance, environmental impact and replication.

Maintenance

Although the roads' beneficiaries can and do carry out sufficient first-line curative maintenance to keep the road operational -- such as clearing off landslides -- there is no budget for the large-scale maintenance required in this geologically young and unstable area. There are occasional major landslides or collapses that the campesinos cannot handle without outside resources, and there is no mechanism to deal with this eventuality. Preventive maintenance has also received insufficient attention.

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Environmental Impact

To protect against erosion and siltation of the rivers in the manner recommended by U.S. consultants would require standards and commitment of resources not now applied to the major highways in Colombia, let alone to this tertiary road system. There are signs of erosion though not yet of the more insidious siltation. On similar roads constructed under a previous project five years ago, regrowth and recovery were observed. It is accepted that serious environmental degradation can result from road construction in mountainous terrain but the gravity of the threat in Colombia and the appropriate response in the context of low-cost road construction must be the subject of further analysis (See Annex D).

Replicability

The project is considered a success at the grass root level, and by important Colombian officials. It is an example of a road construction project successfully designed to use hand labor in a cost-effective manner, and it provides a replicable model for the contracting, management and payment of unskilled workers. The knowledge, institutional capacity and proof of efficacy now exist for this program, but political support may be lacking and its continuation seems uncertain. Colombian funds allotted to the program in 1980 are lower than in 1979. Figures are unavailable for subsequent years. Unless additional funds are budgeted or external resources applied, no new starts of Pico y Pala roads will be possible. If so, the experience will have been of little but academic interest. A continuation of this program in Colombia, or its replication elsewhere under comparable conditions, however, would represent a refinement in our thinking about rural development: a move away from the complexities of integrated rural development to the sparseness and selectivity of attack on key constraints (See Annex B).

Since the roads completed under the project are all less than a year old, a follow-on evaluation is recommended in 1983.

GLOSSARY AND ABBREVIATIONS

Caja Agraria	Caja de Credito Agrario, Industrial y Minero	Agricultural, Industrial and Mining Credit Bank
Campesino		A person living in a rural area ("campo"), usually a small farmer
CV	Fondo Nacional de Caminos Vecinales	A semi-autonomous organization under the Ministry of Public Works responsible for rural road construction
GOC		Government of Colombia
ICA	Instituto Colombiano Agropecuario	Colombian Agricultural Institute
INCORA	Instituto Colombiano para la Reforma Agraria	Agrarian Reform Institute
INDIRENA	Instituto de los Recursos Naturales Renovables y del Medio Ambiente	National Institute for Renewable Natural Resources and the Environment
Minifundia		Small land holding
Pico y Pala		"Pick and Shovel", labor - intensive road construction
Picopalero		Worker on Pico y Pala road
SENA	Servicio Nacional de Aprendizaje	National Apprenticeship Service
Vereda		Small rural community, a village or a grouping of farms

CURRENCY EQUIVALENT

US $1 = Colombian Pesos (Col$) 43.23

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PICO Y PALA

PROJECT IMPACT EVALUATION

I. INTRODUCTION

High on the slopes of the cordilleras, the massive ridges that divide Colombia from north to south, thousands of farmers are at work on mountain roads that will, for the first time, link their isolated homes and villages with markets, schools and clinics in nearby towns. By mid-1980, more than 50 such roads will have been completed, fulfilling a program that was launched by the Government of Colombia (GOC) in 1975 and co-financed by the U.S. Agency for International Development (AID). An AID evaluation team consisting of a senior project officer, an evaluation officer, a transport economist, and an anthropologist visited 11 road sites over a three-week period in November 1979, and found the campesinos' lives dramatically changed since construction began.

II. THE PROJECT

As is true elsewhere in the developing world, those who live in the mountains of Colombia are among the poorest people in the country. The climate at high altitudes is inhospitable and unpredictable. The hillsides are steep and difficult to cultivate. Arable land is divided into small plots (minifundias), typically ranging from 0.5 to 10 hectares. Subsistence farming is the rule. There is no point in growing more than a family can eat since there is no way to sell a surplus. The nearest market town is miles away - many hours on horseback or by mule, over steep and narrow paths. Perishable produce, like berries or tomatoes, does not survive the trip. Other crops, like potatoes, are not worth taking into town since the cost of transportation by mule alone equals the market price. The use of more fertilizer or better seed is pointless, and a production loan unthinkable.

The isolation has other consequences as well. Houses and schools have to be built with locally available construction material since the transportation of cement or corrugated roofing by animal is impractical. The town doctor, nurses and family planning advisors rarely if ever visit villages that cannot be reached by motor vehicle. The sick and pregnant who find their way, somehow, to the health post in town are fortunate.

It is the people of these small mountain communities (veredas) that the Pico y Pala project was designed to assist. As agriculture

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represents their principal source of food and income, the project sought first to increase agricultural production, thus improving diets, and raising incomes and general welfare. These objectives were based on the goals of the Colombian Government's Health and Nutrition plan, and consistent with those adopted by A.I.D. in its Development Strategy for FY 75, the year in which the project was approved.

The project sought to reach these objectives by constructing access roads to link these communities with the nearest road leading to a market town. Access to markets would encourage increased agricultural production. At the same time, the availability of a road would open these communities to agricultural extension, health and educational institutions and services, contributing further to the improved welfare of the campesinos.

The roads were to be simple, of minimum standards, with gravel or crushed rock surfaces. The campesinos would do most of the construction themselves, using basic tools such as picks and shovels (picos y palas) and wheelbarrows. To ensure the maximum socio-economic payoff, a road selection procedure was to be developed which located the roads in mountainous regions of the country* where both the employment-generating aspects of construction, and the development benefits of increased communications were most urgently needed.

Based on this concept, A.I.D. approved a $5-million loan in 1975 to support the Colombian Government's rural road construction program. The GOC contributed $7 million dollars in pesos. At an estimated cost per kilometer of $12,000, the AID Project Paper anticipated that close to 900 kilometers of roads would be constructed in three years. The project was also intended to strengthen Caminos Vecinales (CV) as the principal agency for construction of rural roads in Colombia. In addition to the road selection criteria, CV would develop a methodology for evaluating the socio-economic impact of the roads after completion, and would collect baseline data. Funds were also set aside to train CV personnel in road construction design and maintenance using both in-country seminars and observational trips abroad. Finally, consultants would conduct studies of road maintenance, environmental effects, and CV financial management.

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* There are several Pico y Pala projects in the "colonization" areas in the plains of the country. These are, however, numerically few and atypical of the program.

III. PROJECT EFFECTIVENESS

Only about half as many roads, and half the number of kilometers originally projected will actually be completed under the project.* Still, some 59 roads averaging 8 km in length will be built and AID disbursements are expected to be completed only six months behind the original schedule. Despite early delays in the receipt of funds from the GOC, CV administered the program soundly and efficiently. Seminars and observational trips on road construction, design and maintenance were well attended by CV personnel. CV also commissioned and is making good use of a study of its cash flow and cost accounting system. Of particular note are the road selection criteria and the socio-economic evaluation methodology developed by the Pico y Pala Project. The former assures that approved road projects are appropriate for labor-intensive construction, that they are located in economically depressed but potentially productive areas where small farmers predominate, and that the benefits expected from their construction justify the costs. No systematic collection of baseline data exists, and the evaluation methodology, developed with the help of Colombian consultants, has not as yet been used by CV. The AID team, however, utilized the recommended system and found it to be most useful in preparation of this assessment.

IV. PROJECT IMPACT

The socio-economic impact of Pico y Pala roads is of two types: the impact resulting from construction and that resulting from use of the roads.**

A. Impact of Road Construction

The task of constructing a Pico y Pala road consists essentially of: (1) excavating and removing cut material from the mountain slope;

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* The original cost estimates of $12,000 per kilometer were based, apparently, on rural roads of similar widths but without culverts and compaction. The high rate of inflation that applied to both labor and materials in Colombia in the last three years was also underestimated. The average cost for roads built under the project to date is $22,500 per kilometer.

** None of the Pico y Pala Projects have been completed for more than 10 months and some of the roads visited were still unfinished. While these roads are utilized as soon as they become passable, their use rarely exceeded a year or two. The AID team did visit a few roads constructed under a previous program, some of which were completed five years ago, and found significantly greater impacts in some sectors. What follows, however, applies only to the roads recently completed under the present Pico y Pala program.

(2) constructing bridges and culverts for drainage; and (3) compacting the surface. CV divides the task of excavation into "sections" typically of 10-40 linear meters of road depending on the height of the cut. Each section is contracted to one person to be completed within a stipulated time. The campesinos who sign these contracts subcontract informally with family members or friends to complete the work. Once the excavation work is complete, the next two stages of construction (culverts and compaction) are contracted out to firms or individuals with appropriate expertise. They in turn subcontract much of the non-skilled work to the campesinos. Thus, 60-65% of the costs of the road construction are paid as wages to local campesinos either directly by CV or by contractors.

Payment for the excavation work varies depending on the type of material involved (rock, soil or conglomerate), and is based on the amount of each that a man can reasonably be expected to cut and remove in a day. The rates are set and periodically adjusted to make them slightly higher than the going daily wage for hired agricultural labor in the region. The increment is necessary to compensate for the difficulty and unfamiliarity of the work. Road construction workers may return to the farm at harvest time when farm wages tend to rise. Normally, however, hundreds of workers are actively working on a given road. Some work on the road part time, for example, in three-day shifts with the remainder of the week spent on the farm; others may complete their assigned section, return to the farm, and perhaps eventually sign up for another section. Women and older children assist, often at lunchtime after bringing food to the roadsite.

There is no doubt as to the identity of these "Picopaleros". The road selection procedure is weighted to favor economically depressed areas, minifundia and even micro-minifundia areas with considerable unemployment and under-employment on the farms. Thus it is the unemployed, the landless and the farmers with marginal homesteads who most eagerly respond to the call for workers on the road and who receive the lion's share of payments made by CV.

While we do not have farm budget data, there is no question that the added daily income from this activity was an important economic benefit to the thousands of men and women who engaged in it.

Picopaleros were remarkably consistent in their description of how they used the income earned on the road. In the order most frequently mentioned, these uses included:

1. improved housing, including new roofs, floors and walls, often built with newly available construction materials and techniques;

2. repayment of debts, particularly to the Caja Agraria, the agricultural credit facility;

3. purchase of fertilizer and/or seeds to expand or intensify production of (now marketable) agricultural produce;

4. purchase of a cow, horse or mule - the last two still being necessary to carry produce from distant farms to the road; and

5. increased recreation and consumption of goods, such as watches and radios.

We had not expected to find skills learned on the road to be transferable to the home and farm. For many campesinos, however, excavation and work on culverts represented an introduction to levelling, drainage, cement handling and other techniques. We found that many had applied these skills to improve their homes and farms by erecting fences, levelling their fields and farmland and installing concrete floors.

B. Impact of Road Use

1. Agricultural Impact

The A.I.D. team found that the most notable change resulting from the road's presence has been a dramatic drop in transportation costs as farmers switched from mules, horses and handcarrying to motorized transport. Absolute values differed from region to region and by distances travelled as did specific examples and figures given by the farmers. We concluded, however, that they had been paying in real terms four to five times, and in some cases as much as eight times, more to transport a given product by mule or horse than they are now paying to transport the same item by bus or truck. Transport costs represented as much as 80% of the market price of onions in one village before the road was built and only 10% thereafter. In another village, transportation costs represented 57% of the market value of corn before the road became available and 14% afterwards.

Given savings of this magnitude, we were not surprised to find dramatic changes in farming practices. The most striking of these changes concerned items that had been grown but not marketed to a significant extent before because transport costs were prohibitive. Newly exported products included pumpkins, gourds, cabbage, passion fruit, potatoes and tomatoes. A farmer with two cows who had previously only produced cheese told us that he had switched to the more lucrative production of milk which he could now market using daily milk truck service. Perishable products, such as tomatoes, tree tomatoes, avocados, and moras (akin to blackberries) could not

effectively be marketed before the roads became available. As one farmer put it, "By the time the moras reached the market on mule-back, all you had was mora juice." Now perishable produce can be transported safely, before it is damaged or spoiled.

It was impossible to quantify the incremental production, and the resulting real changes in farmer incomes during the one- and two-day visits to the road sites. We have estimates, however, from community leaders and the farmers themselves which indicate the range of the changes. In Santa Lucia, campesinos at a group meeting agreed that marketed production of potatoes in their community had risen from 500 cargas (loads of 80 to 100 kilos) annually to 1300 or 1500 cargas since the road became passable (a period of less than 2 years). Marketed production of peas had increased by 50% in the same community.

Other estimates of production increases included a 90% increase in both potato and tomato production over a two-year period in Aurora; a 60% increase in the production of beans and potatoes, and a 10% increase in corn in Guarne over the last three years; and an increase of 200% in the marketed production of wheat in Narino since 1977. Not long ago, woodcutters in the Villa Fatima area used to sell a carga of wood for 100 pesos in Pradeiro, several kilometers away, less 50 pesos per carga for transportation by mule. They now obtain 100 pesos per carga in Villa Fatima, saving the entire transportation cost and doubling their weekly income from 450 (three cargas of wood, three days a week) to 900 pesos. Panela (raw sugar) producers likewise reported receiving as much now at their doorsteps as they had previously received in town, saving the formerly onerous transportation costs.

Signs of increased agricultural activity abounded. Campesinos had built small storage shacks alongside the road to act as collecting points for truck pick-ups. The village of La Victoria, which is located two to three miles from a Pico y Pala road, bought a lot and constructed a small store alongside the road. The store now acts as a collection point for produce going to the market, and as a drop-off point for fertilizer and other agricultural inputs for the farms.

These production increases stemmed from both more intensive and more extensive cultivation. The former seemed to predominate, however, because in the minifundia areas of the Pico y Pala project the availability of uncleared or unutilized land was limited; secondly, because the road brought with it at least the opportunity for more intensive cultivation - access to fertilizer and improved seed; and finally, in the state of Valle, because environmental authorities strictly controlled the opening of new lands to cultivation. There is no question that fertilizer has become more available and less

expensive because of the drop in transportation costs, and most farmers indicated an increase in its use. Those who did not use more fertilizer cited its still high cost and uncertain market prices (e.g., for potatoes and raw sugar) most frequently as the reasons. The village of Santa Lucia was unique in attributing the sharp increase in its potato production primarily to the shared use of small tractors which previously could not be transported to the village.

The pattern with respect to the use of credit was more varied. Representatives of the Caja Agraria, the agricultural credit facility, reported credit shortages in some areas (Tolima and Huila) and ample funds in other regions (Cundinamarca). Where credit is available, many farmers indicated increased use. In one village, 50% of the farmers present at a meeting were receiving credit before the road was built; 75% were using it afterwards. In Santa Lucia, of a group of ten farmers, three reported having opened accounts at the Caja Agraria since the road project was initiated. For others, the eligibility criteria of land ownership and income will continue to be an obstacle to obtaining loans until their financial situation further improves. All farmers agreed, however, that the new road made it easier for them to visit the Caja "in town," and Caja representatives with whom we spoke confirmed that it was likewise easier for them to visit applicants.

In sum, the AID team encountered clear indications that farmers took the initiative to increase their use of agricultural credit, fertilizer and improved seed as a result of income derived from construction of the roads and the perceived opportunities to increase agricultural income as a result of improved access. The degree and extent of the increments varied somewhat according to the locations visited, but seemed in all cases significant.

In contrast, we did not find the government agencies responsible for various types of agricultural technical assistance generally expanding into areas served by the new roads. This appears to be a simple problem of budget and personnel limitations rather than lack of desire on the part of personnel in the field offices. Whether or not budgets and staffs will be increased for the offices serving the areas of Pico y Pala roads is unknown. It is likely, however, that if funding increases do occur, the areas served by the new roads will take priority over areas served only by trails. As one government agricultural agent put it, "I would rather visit several clients by motorcycle and be back the same night than visit clients on overnight trips in villages that can be reached only by mule."

We concluded that the dramatic changes we noted in farming practices and patterns were due to the shift from non-motorized to motorized transport, and the resulting drop in transport costs. In the

Colombian context, these changes were achieved almost immediately and without any marked increase in agricultural technical assistance. AID's focus in this project on access road construction as the means of stimulating the development of isolated areas is in sharp contrast to the more comprehensive and integrated approach used by the GOC (and other lending agencies) in its Integrated Rural Development Program (see Annex B).

2. Health, Family Planning and Nutrition

The health problem in the isolated mountain communities of Colombia is serious. In Nariño, a disadvantaged part of Colombia near the Ecuadorian border, we found a primary school with a hundred pupils (and one teacher) to which health workers had never come to give basic inoculations. In two villages, we heard horrifying accounts of critically ill persons who had to be carried along mule paths for hours to the nearest medical post.

In general, we found that the road was more likely to alleviate the latter type of situation than the former. That is, the ill may now be transported more quickly and comfortably to facilities in town, and the campesinos realize and take comfort in this fact. Health and family planning workers are still often loath, however, to forsake their clinics and travel out to the veredas even if they can now do so much more easily due to the road.* This situation may improve with the passage of time. In the short run, however, any health improvements from the Pico y Pala roads are more likely the result of the campesinos having better access to medical and health facilities in nearby towns, rather than the doctor, nurses, or family planning workers making "house calls" on the campesinos in their communities.

We were unable to substantiate clear improvement in the diets of the campesinos. Newly established stores carried more protein foods than before the existence of the road (e.g., condensed milk, sardines), but they also featured more chocolate, candy, jam and biscuits than before. The farmers are, however, growing more food, and should at least be meeting the caloric requirements of their families more easily.

* Nor does the existence of a road assure receptivity to available services. In Nariño, for example, we asked a group of 17 men and 3 women if women received any professional assistance at childbirth. A man replied, "No, they give birth as they can." To which a woman somewhat indignantly answered, "Yes, and they die as they can too." She was shouted down by several of the men who were obviously proud of their many children and indicated little or no interest in family planning.

3. Education

We found no discernible effects, as yet, on school attendance, or on the student/teacher ratio. School teachers at some sites indicated that it was easier for at least some of the children to reach the school via the newly built road, but others living away from the road would continue to walk up to two hours over difficult paths. We confirmed in the case of two veredas, however, that a small number of students who did not previously attend secondary school were now riding the bus to attend classes in a nearby town. Community leaders expressed the opinion that, with the advent of the road and the accessibility of building materials, long-desired school construction or modernization had become more feasible and might finally proceed.

4. Quality of Life

The enthusiasm of the campesinos for their new road and its influence on their lives are difficult to exaggerate. An elderly lady in Santa Lucia told us that the need for a road had been discussed as long as thirty years ago and that it was a blessing that she was allowed to see it. Campesinos often answered questions about their lives in terms of the "Before" and "After" (the road) eras. In one village, our systematic investigation at a town meeting on such details as school attendance and irrigation patterns was interrupted by a campesino who, impatient with such esoterica, declared that the project was "the best thing that ever happened to me and to Colombia."

Life has indeed changed in many of the communities we visited even though most of the Pico y Pala roads are only now reaching completion. Some of the changes are more clearly related to the road than others. Residents of Santa Lucia proudly called our attention to the bus schedule tacked on the wall of a recently built store. It showed the bus leaving for Fussa, a town 12 miles away, four times in the morning and three times in the afternoon on market days, three times daily otherwise. The store owner pointed at bags of fertilizer which had arrived dry, protected from the weather. Cement bags, too, now arrive in good condition. In all villages, the men told us (sometimes regretfully) that women and children who previously considered travel by mule to be too long and tiring could now join them more often on their trips into town. The AID team collected figures on travel time reduced by factors of as much as five and six. One farmer told us that he used to get up at 4:00 a.m. to reach the market "with a half-dead mule" by 8:00 a.m. He now gets up at 7:00 a.m., catches an escalera (a bus with a ladder to the roof where produce and goods are carried), and still makes his sale at the market by 8:00 a.m. At one site, an enterprising farmer told of buying a small bus to transport people and

goods. Another bought a jeep to offer similar services in Nariño. Most communities visited boasted that they had built at least one new store since road construction began.

Wages increased in the areas near the roads, and farm owners told us that labor was harder to get. Landless laborers confirmed that wages had gone up, that they now had "alternatives," and no longer needed to accept work at any price (an unexpected but welcome example of a direct redistribution of income effect).

The team members detected little or no change as yet in migration patterns to or from the communities visited. In one case, however, a group of campesinos listed names of farmers who had returned to the area to cultivate lands they owned, but had previously been unable to work profitably.

Sharp increases in land values were cited by the farmers with property increasing two to ten times in value at different locations since the start of road construction. In Santa Lucia, for example, two thirds of a hectare of land was worth 10,000 pesos three years ago; now, 100,000 pesos. In spite of the opportunity to profit from such increases, we heard of no sales at any of the sites visited. We also found no changes in the size of the farms, or in the pattern of ownership. Again, the fact that the project is still young may explain the apparent absence of any such impacts, but the farmers seemed very happy to continue to work their appreciating land.

The most telling sign of popular support and appreciation for the roads were the requests encountered at several sites by both groups of AID evaluators that the roads be extended -- sometimes to "reach others uphill"; sometimes "just another 1 1/2 kms" to reach another road; or, to "complete the loop" linking several communities.

5. Community Organization

The success of the Pico y Pala program depends on both the initiative and on-going participation of the campesinos. The road selection criteria require that applications originate with the campesinos, and we found this criterion respected at all sites visited. In most cases, the Junta de Accion Communal, an informal village organization existing to speak and act for the community as a whole, initiated action. Construction, too, is a communal activity. Unlike other Colombian rural development programs which include road construction elements, such as the Integrated Rural Development program (see Annex B), most of the work in Pico y Pala is physically performed by the families who stand to benefit from its completion.

After visiting eleven road sites, the evaluation team had no doubt that such community participation, both in applying for and in building the roads, significantly strengthened internal stability and social organization. To the anthropologist on the team, this phenomenon was reflected in the continuity of community leadership before and after road construction, the intensified investment by farmers of both capital and labor in the cultivation of their land, the marked tendency to exclude outsiders from land ownership, and the continuity and adaptation of traditional methods of exchanging income for prestige.* The custom of cooperation in the construction phase is often carried over to other community activities and joint agricultural activities. In Santa Lucia, for example, a rented tractor is shared by groups of 3-5 farmers who were not previously accustomed to such cooperation.

The capacity of the community to deal with the local political process is also enhanced. While we did not (among the new road sites visited) find instances of veredas which had actually succeeded in obtaining new services such as electricity, water or sewerage, we did encounter several efforts in that direction. In Santa Lucia, for example, the Juntas of several villages had combined into a "Pro-Road Junta" in order to lobby for the Pico y Pala project. Now that the road is in place, the "Pro-Road Junta" is being reorganized into a "Pro-Electrification Junta." Similar efforts to obtain health posts, schools and electrification are being launched by other villages, their status varying from planning to active advocacy or planned advocacy by the communities. Such efforts and initiatives clearly reflect an increased mobilization of the human resources of these communities.

6. Maintenance

The problem of maintenance of the Pico y Pala project is only now arising as roads constructed under the program near completion. CV is responsible for maintaining the roads in good condition until their completion. At that time they officially become the responsibility of the state highway departments.

Unfortunately, the state highway department's maintenance budgets are barely sufficient to maintain the network of roads already under their stewardship. Resources to maintain Pico y Pala projects are

*In Nariño, for example, the owner of the only Jeep used it to transport the statue of the patron saint, enhancing his position as a community leader, and permitting others to share in his improved economic status.

unavailable. Under the AID loan agreement, the GOC agreed to allocate $1 million for maintenance at the outset of the project. As contemplated in the AID project paper, however, that amount was expended mostly to maintain roads built under a predecessor program, thus leaving the till empty for roads now nearing completion under the present project. CV undertook to study and discuss the matter within the GOC, but the critical question of the responsibility and source of funding for the maintenance of these roads is still unresolved.

The evaluation team visited Colombia during one of the worst rainy seasons in recent decades. As expected, most of the observed roads -- especially those not compacted -- showed signs of surface water, road surface erosion and landslides. Roads featuring clearly defined drainage ditches were few and in only one or two instances had the ditches been cleaned. Yet, in all instances of completed projects, the roads were passable, and in some cases they were in better condition than comparable rural roads built under other programs.

We were told by CV personnel that the communities that participated in the building of the Pico y Pala roads will maintain them to the best of their abilities. The team did, in fact, observe several instances of campesinos working without pay under a convite (invitation, convocation) from their leaders to clear landslides, and we accept the fact that campesinos can and will clear their roads whenever possible. The system breaks down, however, when the nature and extent of the damage exceeds the campesinos' physical resources. For example, a heavy landslide or major surface erosion requires professional assistance, and no budget exists to assure its provision.

In practice, communities have in such cases sought and obtained help wherever they could get it -- from CV, the state and national highway departments, and from the Federation of Coffee Growers. Such assistance is, however, ad hoc; no reliable mechanism exists through which major maintenance can be undertaken. The problem of preventive maintenance also persists. On only one of the roads visited had farmers kept the drainage ditches clear of growth and debris. In other cases we observed, it is only a matter of time before the water rediscovers that the shortest way downhill may be across the road surface.

The maintenance aspects of this project were, therefore, not adequately addressed. The institutional responsibility for major maintenance and the system for carrying it out cannot be left to be studied, but must be defined and agreed on in advance. The question of the funding for maintenance should also be addressed, not only for the duration of the construction project, but for the period thereafter as well. Finally, more should and could be done to educate campesinos as to the importance of preventive maintenance. We realize, however, that this is a counsel of perfection on a very complex problem.

V. THE FUTURE

The AID development strategy for Colombia in 1975, the year in which the Pico y Pala project was authorized, reflected the transitional phase of AID assistance to Colombia. Given the sharply reduced funding levels available for FY 75, AID's project proposals for that year were designed to be experimental and demonstrative, hopefully creating models which would enable the GOC, as well as the lending agencies, to continue their development efforts after the AID phase-out. The Pico y Pala project was intended to establish and demonstrate the feasibility of an approach to rural road construction which, if successful, might be given increased support in Colombia and replicated elsewhere.

The evaluation team concluded that the Pico y Pala project does, indeed, demonstrate the technical and economic feasibility of a labor-intensive approach to the construction of rural roads in Colombia. Moreover, we believe the model is replicable elsewhere, provided it is applied to terrain conditions in which it is competitive with more highly mechanized construction, and in regions with unemployment or underemployment. Our assessment confirmed that the benefits of the project are reaching the target group and that the campesinos themselves strongly support the roads as well as the labor-intensive means of constructing them. CV, the implementing agency, also supports the project. Problems exist, and will continue to arise, but they are recognized and can be addressed. In general, they are not of the type or of such magnitude as to detract from the appeal of the Pico y Pala concept.

Given this strong support for the project at the grass root and administrative levels, we were disappointed to find that budgetary support for the Pico y Pala project does not reflect its popularity. As AID phases out, rather than increased GOC support to take its place, the budget for the program reflects a drop from 84 million to 79 million pesos in GOC funding from 1979 to 1980. As a result, CV expects to complete existing Pico y Pala projects in 1980, but does not expect to initiate the construction of new roads. Projections for 1981 and beyond are not available.

One possible explanation for this trend is the continuing high priority of the GOC's Integrated Rural Development program (DRI, see Annex B) -- in part externally imposed on the Colombian government by the emphasis and support of the lenders. Another explanation suggested to us is that the Pico y Pala project has not been well publicized, therefore has not become as well known as the DRI program. Whatever the reasons, we share the fears of CV that, without renewed support, either from the Government or from other lenders, the Pico y Pala project may come to an undeserved early end.

VI. CONCLUSIONS, RECOMMENDATIONS AND LESSONS LEARNED

1. Although many fewer roads were constructed than projected in the AID project paper, the Pico y Pala project achieved its purposes of linking a large number of previously isolated communities to nearby towns thus improving access to markets and to public service facilities. In so doing, the project also contributed significantly to the stated goals of increased agricultural production and improved welfare of the rural poor. The project also met its objectives of strengthening Caminos Vecinales, the principal Colombian rural road construction entity.

2. Substantial immediate benefits are derived from the incremental income received by the campesinos who work on Pico y Pala roads. The beneficiaries of the labor-intensive construction were the marginal farmers, landless and unemployed in these communities. They used the additional income to make improvements to house and farm, to increase their use of agricultural inputs such as fertilizer and improved seeds and for increased consumption. They also acquired skills while working on the road (cement utilization, leveling, water diversion) which they applied to improve their homes and farms.

3. Once constructed, the use of these roads brought additional important and lasting social and economic benefits. Most notably these included increased agricultural production resulting from sharply reduced transportation costs, access to markets and to agricultural inputs. These changes took place largely in the absence of increased technical assistance and without any effective change in governmental policies to help small farmers. In the Colombian context, the mere provision of access to markets provided the necessary incentives for farmers to increase production. The requisite inputs (fertilizer, credit, etc.) were generally available once the incentives for their use existed.

4. The roads did not automatically result in more frequent visits from health or education personnel except where the roads were located in an area covered by the Integrated Rural Development Program. Yet it was agreed by representatives of the agencies concerned and by the campesinos that increased capacity of those living in rural areas to visit such facilities would in the long run lead to their intensified use.

5. The "quality of life" improved dramatically at all the Pico y Pala communities visited, not only because of the increased agricultural and commercial activities, but also because motorized access to and from nearby towns increased recreational and social activities and access to services. The social structure and organization of the communities was strengthened first by their application for and then by their communal approach to construction of the roads.

6. For many reasons there still exists, both among the LDC's and within the international donor community, a bias in favor of mechanized road construction. Pico y Pala offers a replicable model for labor-intensive construction of rural roads under certain conditions. In the Colombian context, it is competitive with mechanized construction when confined to certain operations (excavation), certain terrain conditions (mountainous), and to certain areas (labor-surplus). Under these circumstances, labor-intensive construction offers important socio-economic benefits over traditional mechanized construction. Future road construction projects should be designed to define such conditions carefully, leaving flexibility to vary the mix of labor and equipment in accordance with the geographic, topographical, economic and social conditions prevailing in a given area.

7. While the communities can and do maintain the roads they built to some extent, the responsibility and funding for major maintenance that exceeds the communities' resources has not been defined. Any construction project should explicitly resolve the maintenance question. Provisions to "study the problem" as in this project are not enough. One aspect of the solution is education of the campesinos as to the importance and means of preventive maintenance.

8. Although the potential environmental impact of road construction is serious, the cumulative impact of the limited road construction undertaken under this project is unclear. Environmental degradation should be monitored to determine the appropriate response. The beneift/cost implications of environmental protection in the context of low-cost rural road construction must also be further examined.

9. Pico y Pala is a relatively young project. Some roads are still under construction. The oldest was completed only ten months ago. While important impacts were observed by the evaluation team as a result of the construction and early use of the roads, few significant changes were noted in the sectors of health, education, nutrition and the role of women. We recommend a follow-up impact evaluation four years from now, that is, late in 1983.

ANNEX A

PICO Y PALA PROJECT

EVALUATION METHODOLOGY

PICO Y PALA PROJECT

EVALUATION METHODOLOGY

The evaluation team consisted of four members: an economist from another A.I.D. Mission; an anthropologist (contracted); an evaluation officer; and the team leader (a project development officer). This team was to be supplemented by a direct-hire engineer from USAID/Colombia and contracted Colombian personnel as needed.

The evaluation team spent the first five days in Bogota (1) to refine the preliminary evaluation design prepared prior to the team's departure from Washington, (2) to select the sites to be visited and make arrangements for the visits, (3) to retain Colombian consultants to assist in the field work, (4) to discuss the methodology and scope of the field impact assessment, and (5) to discuss the project with officials of Caminos Vecinales and other interested agencies.

To maximize the number of road projects visited during its stay in Colombia, the team divided itself into two groups -- one to visit projects in the eastern half of the country and the other to concentrate on projects in the west.

Of the 59 roads, eight were chosen for site visits. The selection took into account a number of factors in an attempt to diversify the sample as much as possible.* Factors considered included age of road since completion, length of road, geographic distribution and cultural diversity, principal agricultural activity and whether located in coffee zone or not, distance from major city, whether located in or near a DRI zone, and whether project had been flagged as presenting environmental problems. In addition, we decided that it would be desirable, on a time permitting basis, to visit roads constructed under a predecessor project which, although not specifically designed to increase agricultural production, did result in the construction of comparable roads which are now older than those built under the present project. Also, on a time-available basis, we agreed to visit Pico y Pala roads in the construction phase as well as rural roads constructed by mechanized means.

*Some of the roads selected for impact assessments had to be eliminated because they were inaccessible as a result of slides caused by the heavy rains. Other projects were substituted, and some were included that were not on the original list. In the end, 11 roads in 7 states were visited.

The impact assessment was based on a methodology developed by a Colombian consulting firm. This methodology was developed with A.I.D. financing under the Pico y Pala project specifically to permit the socio-economic evaluation of the project. The consultants' report had only recently been issued, however, and had therefore not been field tested, except to a limited extent by its authors. Fortunately, two of the principals of the firm that developed the methodology were able to join us on most of our field trips.

At each site, as recommended in the methodology, we discussed the road projects with the formal and informal leaders of the community and with individual campesinos, reviewing the origin of the project and its construction as well as its social and economic impacts. The questionnaires developed by the consultants were amplified by the A.I.D. team to cover additional concerns of particular interest to AID. The same scope was then reviewed with the farmers in a group setting, usually at "assemblies" convened expressly for the purpose. Where possible, additional sources (e.g., representatives of the Caja Agraria or ICA) were also interviewed.

Upon their return to Bogota, the teams utilized the last three days to review the data collected and to discuss findings and conclusions.

LESSONS LEARNED

1. The "Evaluation Workshop" held in AID/W prior to the evaluation was useful to prepare for the exercise and to expose all team members to the same instructions at the same time. It was particularly useful in stating the objectives and expectations of the Agency, and setting the broad parameters for the evaluation. The instructions at the Workshop could be clarified in two respects -- (1) the extent to which the report outline in the "interim guidelines" should be followed in the evaluation reports, and (2) the relative emphasis to be given to effectiveness and impact. We found much of the material presented by the "outside resources" to be too theoretical to be of much use to us in the field given the short time available for its application. If experts continue to be used in future workshops, their inputs should be solicited and applied by the teams to the particular projects they will be evaluating.

2. Pico y Pala is a young project. Some roads are still under construction. The oldest road was completed only ten months ago. While important impacts were noted by the evaluation team as a result of the construction and early use of the roads, these were immediate effects which may be modified in the longer term. The relatively short period elapsed since the roads were completed may also explain why we did not find significant changes in the sectors of health, education, nutrition and the role of women. We recommend that at least 12-18 months be permitted to lapse after official completion before a project of this type is evaluated. In the case of the Pico y Pala project, we recommend a follow-up impact evaluation four years from now, i.e., late in 1983.

3. Only one "generalist" is needed on each evaluation team, and either (s)he or one of the specialists can act as team leader. In mobilizing the evaluation teams, AID/Washington should not count on Mission personnel being available full time. In this case, the Mission's Colombian engineer was exceptionally helpful, but was unable to accompany us on the field trips.

4. All evaluation team members should be fully conversant in the host country language. Even when such is the case (as it was for this evaluation), the addition of Colombian nationals to the evaluation team proved to be extremely useful to gather and interpret information. The necessity to incorporate host country nationals on the AID evaluation teams cannot be overstressed. They have insights, contacts and language facilities that cannot be duplicated by outsiders.

5. The socio-economic evaluation methodology developed for this project and utilized by the A.I.D. evaluation team was very useful. Given the limited time available, we found the group interviews to be particularly helpful as a means of supplementing interviews with village leaders and individual farmers. The group interviews helped us to reconcile variations in individual answers and to estimate and validate estimates of production and income changes for individual farmers as well as for the community as a whole. One area in which we felt the methodology and questionnaires might be improved is in the means of ascertaining changes in the role of women in the communities.

6. We observed that in all but one or two cases, very few women participated in the community meetings -- possibly reflecting the role of women in public affairs in the mountain communities we visited. The addition of a female member to the team would have made it easier to gather information from and about women.

7. The teams spent 1-1/2 to 2 days at each site. The anthropologist contracted by AID, as well as the Colombian consultants who developed the methodology, estimate that it would take 5 to 7 days per community visited to apply the evaluation procedure as it was designed to be. Since most of the roads affect several communities, it was obviously not possible for the team members to spend that much time at each site. Nevertheless, with the same amount of time available for the exercise as a whole (18 days), we would choose fewer road projects to visit and spend more time at each site.

8. One more week, that is a total of four weeks in the field, would permit the identification of the principal impacts, some additional quantification of production and income data, and additional verification of the data collected. This assumes visits of 3-4 days each to 5-6 project sites, including travel time, plus time in Bogotá.

9. A full-fledged impact evaluation of the Pico y Pala project would have enabled us to visit veredas further away from the the roads as well as some comparable areas not serviced by access roads; to verify the information on veredas and families benefitted by the roads which is used by CV in its economic analysis of each road project; to obtain more and better data on farmers' incomes; to inquire more deeply into Government policies that may have contributed to the impacts we noted; and to look more deeply into production related aspects which we were not able to explore fully, e.g., storage problems, transportation constraints, commodity pricing policies, credit availability, etc. In general, such a study would yield more quantitative and statistically validated data. The team estimates that such an evaluation would require approximately six months.

ANNEX B

RURAL ACCESS ROAD CONSTRUCTION

VERSUS

INTEGRATED RURAL DEVELOPMENT

One of the purposes of Pico y Pala was to help public and private institutions provide small farmers with services and assistance in agricultural technology and credit, as well as in health and education. To ensure the availability of appropriate agricultural inputs and services, the project paper contemplated that roads approved for Pico y Pala construction would either be located in areas covered by the Government's Integrated Rural Development (DRI) program, or if not, that the availability of the most critical production inputs and services would be taken into account in the road selection procedure.

DRI is a multimillion dollar program jointly financed by the Colombian Government, the World Bank, the Inter-American Development Bank and the Canadian International Development Agency. It aims to coordinate the activities of 13 different Colombian agencies in an integrated approach to rural development. Participating agencies include the Caja Agraria, ICA, INCORA, SENA, PAN (Colombia's Nutrition Organization), as well as agencies operating in the infrastructure, health and education sectors. Each of the agencies participating in the DRI program receives its annual budget with a portion earmarked for projects located in the designated DRI areas.

As expected, we found that Pico y Pala projects located in DRI areas received more attention from the agencies participating in that program than those in non-DRI areas. In one community, for instance, the representatives of several of these agencies visited the farmers on a weekly basis, offering seminars on a variety of subjects. In fact, however, only a small number of Pico y Pala projects are located in or near DRI areas receiving the benefits of the official priority attached to that program. The team did confirm that availability of credit and technical assistance are among the selection criteria used to choose among road projects but, as noted previously, the existence of the Caja Agraria and the agricultural service agencies in nearby towns, does not assure intensified coverage of communities newly connected by Pico y Pala roads.

The question is thus raised whether the Pico y Pala project should have been, or should in the future, be more closely linked with the DRI program. None of the many officials queried favored integration of Pico y Pala in DRI. We agree with them due to the differing size, objectives and complexity of the two programs: Pico y Pala is a limited and discrete intervention providing assistance to isolated, economically depressed mountain areas throughout the country. DRI focuses on five selected regions that have demonstrated agricultural production potential. In these areas, it attempts to coordinate the activities of many agencies to provide the necessary infrastructure (roads, aquaducts, electrification, schools) as well as the technical assistance and social activities necessary to realize that potential. Because of the range of activities and services under its aegis, the DRI program has encountered

delays in the implementation of at least some of its component parts. Given the success of Pico y Pala on its own, we see no point in merging it with DRI, thus potentially subjecting it to the administrative difficulties encountered by the more complex program.

The same question could be asked in more general terms for application outside Colombia: Should rural road projects be included in integrated development programs, or at least limited to areas where complementary inputs and services are or will be systematically supplied; or are rural roads justified on their own as the spearheads of development? This is not the place to discuss this much-debated question in detail, nor to review AID's extensive experience worldwide with both road projects and integrated development projects. Our experience with this project, however, suggests that under conditions similar to those prevailing in Colombia, access roads may indeed be the critical element, a necessary first step to the development of an area; that their impacts are clear, immediate, and do not depend on -- though they may eventually be maximized by -- the provision of complementary agriculture, health and education services. The mere access to such services, in the context of increased economic opportunities and incentives, assures their gradually intensified use. In such an environment, where the natural resources exist, complementary services and inputs are generally available, and the lack of access is, in effect, the only bottleneck to development, we are not convinced that the benefits to be had from a fully integrated approach are worth its much greater complexity, higher cost and the resulting narrower geographic focus.

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ANNEX C-

MECHANIZED VERSUS LABOR INTENSIVE CONSTRUCTION

Caminos Vecinales is responsible for rural roads construction under several programs, including both the DRI program and Pico y Pala. It uses mostly mechanized means to construct roads under the DRI program and mostly labor-intensive methods to implement Pico y Pala. The AID evaluation team took advantage of this unusual perspective to inquire into the relative merits and drawbacks of both methods.

The main difference between the mechanized and Pico y Pala approach, in the context of rural road construction in Colombia, lies in the method of excavation since culverts, bridges and compaction are normally handled by contractors in both cases.* Aside from minor discrepancies in the angle of the cuts, and in the definition of the drainage ditches, we found no significant differences in construction quality when comparing roads built by each method. CV engineers emphasized the importance of more intensive supervision and guidance to workers under the Pico y Pala approach, but the evaluation team found that CV had generally provided adequate oversight on the roads inspected.

Construction costs are also comparable for both methods under conditions governing Pico y Pala roads: mountainous regions where cuts predominate and earth movement is minimized; labor is in surplus, and therefore, available at relatively low cost; and, equipment is not normally available at or near the sites.

As expected, the mechanized approach is faster. Even allowing the necessary time for competitive bidding, a typical seven-kilometer stretch of road in mountainous terrain can be constructed by mechanized means in a year as opposed to two years for Pico y Pala construction. While this means that the construction is completed sooner by mechanized means, economic benefits of road use start accruing as soon as portions of a road are passable. These partial use benefits may occur sooner for a Pico y Pala road than in the case of a road which must be advertised for bids, the construction of which would start later.

The nature and extent of the benefits received by the "Picopaleros" have been described above. Farmers who were queried on how they felt about excavation by equipment were unanimous except in one situation on their preference for the labor-intensive approach. They noted that the income

*In this sense, the Colombian Pico y Pala project does not represent labor-intensive construction in its purest form such as is found, for example, in the labor-intensive projects of Haiti where all phases of road construction are undertaken manually with little, if any, machinery.

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from construction comes to them rather than to contractors thus remaining in the community. (The exception concerned a village where a road was needed quickly to replace one that was lost in the construction of a dam.) CV engineers who are familiar with both the mechanized and Pico y Pala methods did not clearly favor one method or the other. Some would prefer a slightly more equipment-intensive mix on the Pico y Pala projects in situations requiring work in dense rock areas and the removal of slide material.

With that minor qualification, however, the Pico y Pala project is an excellent example of a labor-intensive rural road project. It utilizes hand labor in the most cost-effective manner possible in the context of an economy where relative machinery and hand labor prices dictate a combination of the two inputs in order to minimize costs. Within the context of hand labor utilization, the project provides an excellent example of the successful development and application of an administrative system to facilitate the contracting, management and payment of unskilled workers.

ANNEX D

ENVRIONMENTAL EFFECTS of ROAD CONSTRUCTION

ENVIRONMENTAL EFFECTS OF ROAD CONSTRUCTION

Two environmental assessments of the project have been done, one by a U.S. professor of environmental engineering and another by a U.S. engineering consultant firm.* Both reports cite a number of short-term as well as long-range effects that can result from road construction, especially in mountainous regions.

As the first report put it, roads carved into the mountain side are "open wounds." In a geologically young environment like the Andes of Colombia, CV estimates that it takes as much as five years after construction is complete for the Pico y Pala roads and surrounding terrain to stabilize themselves. Until then, landslides can be expected, especially after heavy rains. The rains carry topsoil with them, denuding the hills and eroding the mountainsides. Excavated material, dumped down the hill during construction, is carried along with eroded material to rivers causing siltation and pollution. By interfering with natural drainage channels, road construction can also affect surface and groundwater patterns with adverse implications for irrigation and drinking water.

The A.I.D. evaluation team did, in fact, observe the aftermath of landslides on several of the Pico y Pala roads. Most were either being cleared, or plans had been made for their removal. More troubling were signs of improper drainage and resulting erosion on the downhill side of the roads. In some instances, the debris extended downhill into nearby streams. In another vereda we were disturbed to find that newly built road surfaces were being damaged by mules dragging freshly cut wooden beams downhill.

We observed, however, at comparable locations on roads completed several years ago under a predecessor project, that both the cuts and downhill slopes had been stabilized and were now mostly recovered with vegetation. We also found that CV does, at least in some locales, assign excavation contracts to campesinos whose land adjoins the road, thus assuring mitigation of damage resulting from the dumping of excavated material. CV engineers also noted that the Pico y Palo approach to excavation is less environmentally disruptive than the use of heavy equipment which moves larger quantities of material at a time. One farmer supported this assessment by saying simply that, "Man works more gently than machines." We heard no complaints from farmers whose properties were lost or damaged by erosion. Since most of the property along the roads has previously been cultivated, we saw no increased signs of "slash and burn" activity, at least not in the immediate vicinity of the roads. Our questions about

*J.A. Liggett, Land Damage Caused by Road Construction in the Mountainous Areas of Colombia, Annex IV, AID Loan Paper No. DLC/p-2121, September 1975; Gannett Fleming Corddry and Carpenter, Inc., Study of Environmental Considerations, March 1979.

effects of construction activities on drinking and irrigation water were also answered negatively. In sum, the more obvious environmental effects of the roads were not considered serious, at least not by those who might be adversely affected by them.

Interviews with CV and other officials about the long-term and cumulative effects of road construction were not reassuring. CV does not consider the environmental impact of its road construction program to be its responsibility; the National Institute for Renewable Natural Resources and the Environment (INDIRENA) is officially charged with that responsibility. With one exception, however, community leaders told us that they had received no visits from INDIRENA officials. CV officials also pointed out to us that environmental concerns and remedial measures are new to Colombia, that no budget exists to apply them, and that such measures were also not yet being applied to the higher priority trunk roads and highways in the country.

On the positive side, we note that ICA, the Colombian agency responsible for agricultural research, does teach some practices (including contour plowing and the use of barrier type vegetation) to the few campesinos it reaches. The Coffee Growers Federation is likewise aware of erosion protection measures as we observed from coffee/banana inter-planting practices in the coffee regions.

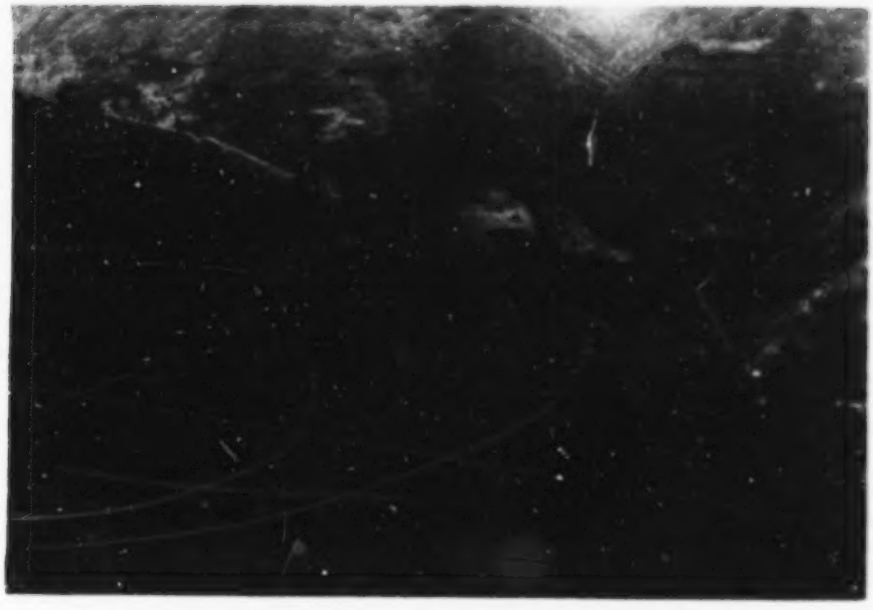
Perhaps most encouraging are the activities of two autonomous development corporations in the State of Valle and the region of Bogota, both of which have taken a very active interest in the field of environmental protection. The Corporacion del Valle de Cauca (CVC) has all but forbidden the cutting of forest wood and cultivation of new lands in the State of Valle. To compensate for opportunities thus curtailed, CVC gives effective training in more intensive cultivation techniques.

The above-mentioned Gannett Fleming report includes a set of environmental criteria which might be incorporated in the road selection procedure. It also includes a series of recommendations that could be used to minimize damage from landslides, erosion, and siltation. The budgetary implications of these recommendations are beyond this evaluation's scope. Future projects must consider which of the recommendations are appropriate for a low-cost road construction project and factor them into the cost-benefit analyses.

ANNEX E

PHOTOGRAPHIC ANNEX

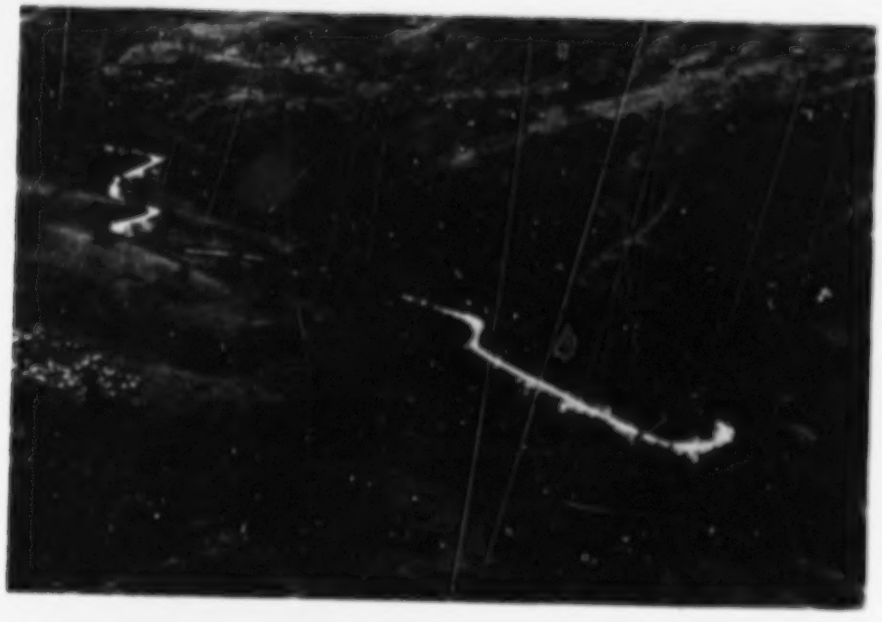
PICO Y PALA COUNTRY. CULTIVATION OF EXTREMELY STEEP HILLSIDES.

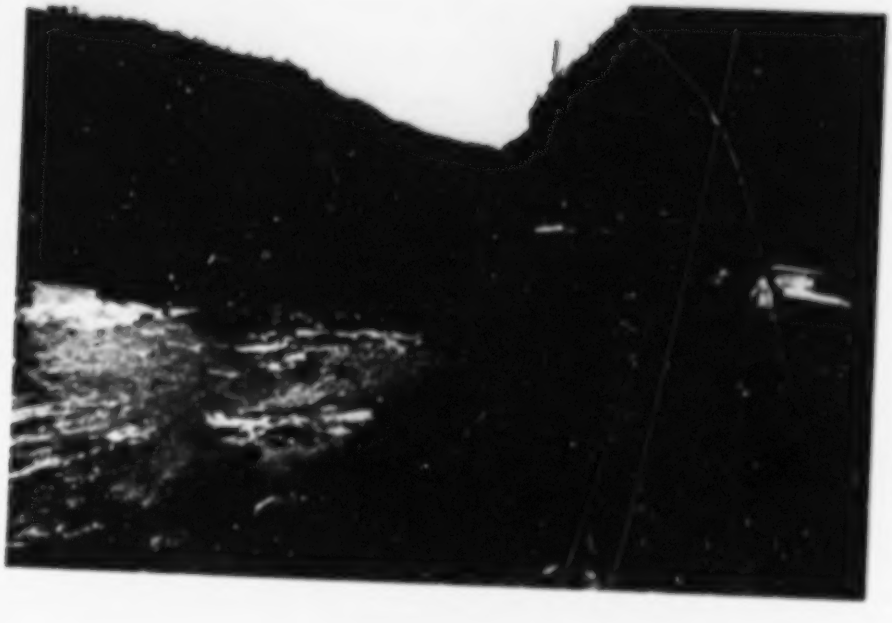


PLOWING THE STEEP HILLSIDES OF NARINO. TERRAIN STEEPER THAN THIS IS OFTEN WORKED, BUT CANNOT BE PLOWED.

BEST DOCUMENT AVAILABLE

PICO Y PALA ROADS
MUST SERPENTINE THROUGH
THE TERRAIN.

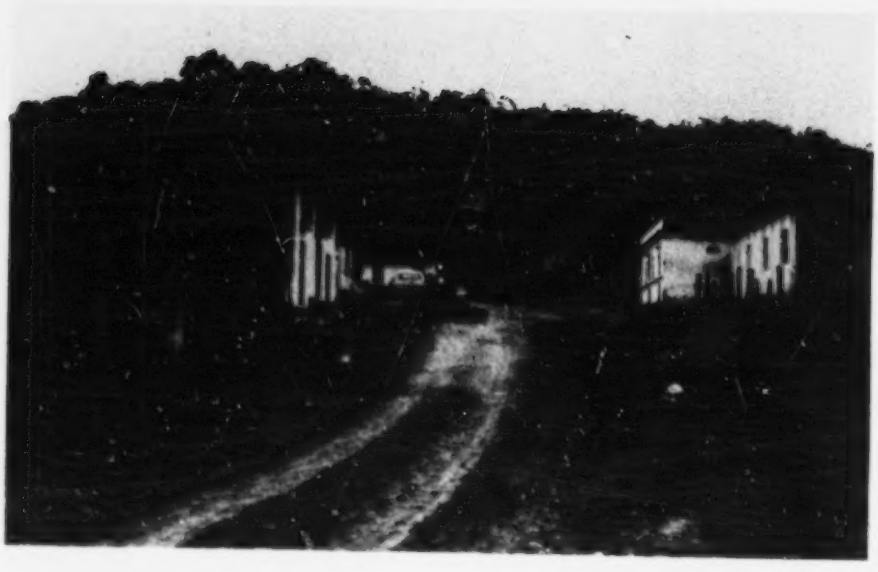




ROADS FREQUENTLY FOLLOW
THE COURSE OF RIVERS.
THIS ONE IS UNCOMFORTABLY
CLOSE.

BEST DOCUMENT AVAILABLE

A VILLAGE WITHOUT ACCESS
BEFORE THE ROAD.



A HUT CONSTRUCTED TO SERVE AS A DROP-
OFF AND PICK-UP POINT FOR A VEREDA REMOVED FROM
THE ROAD.

BEST DOCUMENT AVAILABLE

MAINTENANCE IS UNEVEN.

TO RIGHT: WELL CLEANED AND MAINTAINED DITCHES PREVENT ACCUMULATION OF SURFACE WATER, PROLONG ROAD LIFE AND CURTAIL EROSION.

BELOW: EROSION THREATENS ROAD.

BEST DOCUMENT AVAILABLE

CONSCIOUSNESS IS BETTER DEVELOPED FOR CURATIVE THAN PREVENTIVE MAINTENANCE. ABOVE, CORNERS OF THESE BEAMS WILL CAUSE A MAINTENANCE PROBLEM. BELOW, WORKERS CLEAR LANDSLIDE FROM ROAD ON THEIR OWN INITIATIVE.

BEST DOCUMENT AVAILABLE

EROSION DOWNHILL FROM ROAD.

TIN ROOF IN A VEREDA WHERE
IT COULD NOT HAVE PREVIOUSLY
BEEN TRANSPORTED, NOR PROBABLY
AFFORDED.

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TOWN MEETING.

BEST DOCUMENT AVAILABLE

ANNEX F

MISSION COMMENTS

Department of State

INCOMING
TELEGRAM

PAGE 01 BOGOTA 01045 310406Z 1011
ACTION AID-35

INFO OCT-01 /036 W
----------068882 310407Z /34

P 302116Z JAN 80
FM AMEMBASSY BOGOTA
TO SECSTATE WASHDC PRIORITY 8907

UNCLAS BOGOTA 1045

AIDAC

SECSTE PASS TO DICK BLUE, PPC/E

E.O. 12065: NA
SUBJECT: PICOY PALA EVALUATION

REF: D.J. BENNET LETTER TO JERRY MARTIN OF 1/14/80

1. USAID/COLOMBIA AND IMPLEMENTING AGENCY CAMINOS VECINALES, EXTREMELY PLEASED WITH CLEAR CONCISE EVALUATION. WE ARE COMPLETELY SATISFICED WITH REPORT RECEIVED AND NETIHER USAID NOR CAMINOS VECINALES DESIRES ANY CHANGES.

2. ONLY NEGATIVE FINDING OF EVALUATION, THAT GOC NOT PROVIDING SUFFICIENT FINANCING TO CONTINUE PICO Y PALA PROGRAM AFTER AID FUNDING TERMINATES, IS SAD THRUTH THAT NEEDS TELLING. EVALUATION TEAM SHOULD BE PLEASE TO LEARN THAT CAMINOS VECINALES TRANSLATING REPORT VERBATIM, INCLUDING ANNEXES, AND IS SUBMITTING 100 COPIES TO COLOMBIAN CONGRESS, OTHER GOC LEADERS AND INTERNATIONAL LENDERS IN ATTEMPT TO PUBLICIZE PICO Y PALA PROGRAM AND TO OBTAIN CONTINED FUNDING. THANKS AGAIN FOR JOB WELL DONE.
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